

**Descriptions of New Species of HYMENOPTERA taken
by Mr. Edward Whymper on the "Higher
Andes of the Equator."**

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The circumstances under which the Hymenoptera described here-with were taken are related by Mr. Whymper in his "Travels amongst the Great Andes of the Equator," 1892, p. 356. The parasitic species I have described in "The Entomologist" for the present year.

SCOLIIDÆ.

Campsomeris (Elis) ephippium Say.

The form taken by Mr. Whymper is *C. Wagneriana* Saussure, which was described from Chimborazo. It differs from the type in having the wings clear, or almost clear, hyaline; whereas in the type they are dark fuscous violaceous. The orange bands on the abdomen are paler than in the type. The species was taken by Mr. Whymper at Beticocen, Pinantura and Antisanella, 11,000 feet; Guallabamba to Guachala, 7500 feet, and Ambato, 8000 feet.

The var. *Wagneriana* is probably a high-mountain form. It is figured by Mr. Whymper in his travels, p. 96, and he mentions there that it is known by the name of "the Bishop."

Campsomeris (Elis) costalis Lep.

One example of this common neotropical species from S. Lucia, 8000 feet.

Campsomeris (Dielis) argenteopilosa sp. nov.

Black; the head and thorax densely covered with silvery pubescence and with black hair; the apices of the second and third abdominal segments fringed with white hair; the wings hyaline, the radial cellules tinged with dark fulvous; the radial cellule long, projecting largely beyond the cubital. ♂. Length 20-21 mm.

Head punctured, except for a broad curved line on the top of the front and the clypeus, except round the sides and top; the smooth parts are bare; the rest punctured and bearing stiff black hairs; the occiput and outer orbits are thickly covered with pale hair. Mesonotum punctured closely, but not strongly; the apical part in the middle smooth. The scutellum is similarly punctured, except in the middle which is smooth, the smooth part being broadest at the apex. The

post-scutellum and the median segment are closely and uniformly punctured throughout, densely covered with silvery pubescence and with black hair. The hair on the legs is white: the spines and calcaria are black; the coxae are covered with silvery pubescence. The radial cellule is long, fully two-thirds of the length of the second cubital; the basal abeissa of the radius is roundly curved upwards; the apical is straighter and has an oblique slope; the second transverse cubital nervure is received near the middle of the cellule, it has the upper (and larger) part straight and oblique; the lower part is also oblique, but more rounded; the first recurrent nervure has the upper part straight and oblique; the second has the lower two-thirds broadly rounded backwards; the upper part straight and oblique. Abdomen deep black, thickly covered with black hair; the second and third segments are fringed at the apex and laterally with white hair, the apical half of the pygidium is smooth and bare.

Hab.—Ecuador, 1–2000 feet.

Characteristic of this species is the elongated radial cellule projecting largely beyond the apex of the cubital.

CEROPALIDÆ (olim Pompilidae).

Pepsis sulcifrons sp. nov.

Black; the head and thorax covered thickly with a bright green pile; the abdomen with a bluish green pile; the legs dark blue, their base covered with a green pile; the wings fuscous, their lower basal half and a broader band extending from the transverse basal nervure to the third transverse cubital through the cubital cellules, fulvous-yellow; the second and third cubital cellules are streaked with fulvous in the middle. ♀. Length 18 mm.

Scape of antennæ thickly covered with green pubescence; the flagellum black, fuscous towards the apex. Head thickly covered with bright green pubescence and sparsely with long black hair; the front has a wide and deep furrow down the centre from the ocelli to the base of the antennæ. Clypeus transverse at the apex; the labrum is large, broadly rounded in front. Mandibles and palpi black; the former covered with green pubescence at the base; their apical tooth is long and bluntly rounded at the apex. Metanotum irregularly transversely striated, the striae extending on to the upper half of the metaplenæ; the apex has a straight oblique slope. The yellowish cloud in the fore wings occupies the lower edge of the radial, of the first cubital, the whole of the second and third cubital, except for fuscous streaks in the centre, the greater part of the discoidals and of the submedian and anal cellules; in the first discoidal is an elongated fuscous cloud with a hook-shaped projection at the base. The second cubital cellule is distinctly longer than the third.

Hab.—Nanegal, 3–4000 feet.

Pepsis andicola sp. nov.

Black, densely covered with a purple pile; the flagellum of the antennæ dull black; the wings fiery-red; the base of the anterior narrowly at the base and the basal half of the posterior, black; the apices of both narrowly fuscous. ♀. Length 33 mm.

The head is moderately thickly covered with long black hair; the frontal fur-

row is deep; the apex of the clypeus is broadly, roundly bilobate; the middle being slightly, but distinctly incised. Mandibles and palpi black, opaque; the former sparsely covered with black hairs. The thorax is thickly covered with long black hair, which is shorter and sparser on the mesonotum and longer and denser on the median segment and on the sternum. The scutellum is glabrous, but this may be through rubbing; the post-scutellum is also without hair; the centre is deeply furrowed, the furrow being much widened at the apex, which is smooth and shining. The black cloud on the base of the fore wings is narrow, it not reaching to the middle of the space bounded by the base of the wings and the transverse basal nervure; the basal abscissa of the radius is almost straight, not curved, is thickened at the top and has an oblique slope; the apical abscissa is broadly rounded in the middle; its lower bend is not much longer than the upper; the third cubital cellule is above three-fourths of the length of the second. The basal part of the median segment is coarsely, irregularly striated; its apex, in the middle, is more finely and closely transversely striated, and it has a steep oblique slope; its upper side laterally is tuberculate. The spines on the legs are black. The last abdominal segment is thickly covered with black hair.

Hab.—Pichincha, 11-12,000 feet; Guallabamba to Guachala, 7,500 feet.

Comes near to *P. montezumia* Smith, from which it differs in the pile on the body being purple, not blue; in the apex of the median segment having an abrupt, oblique slope, whereas in Smith's species it becomes gradually rounded from the base to the apex; in the lower part of the apical abscissa of the radius being shorter and less oblique, the middle part projecting in the middle, the upper and lower ends being opposite to each other, while in *montezumia* the upper end is much nearer the apex of the wing than is the lower, and the 3rd cubital cellule above is longer compared with the 2nd.

***Pepsis chilloensis* sp. nov.**

Length 24 mm. ♀.—This species has the general coloration and purple bloom of *P. andicola*, but is much smaller; the black basal cloud in both wings is broader; the apex of the clypeus is transverse in the middle, the 2nd cubital cellule is distinctly longer compared with the 3rd, and the thorax is not so densely haired, and the apical tooth of the mandibles is shorter and broader.

Clypeus sparsely punctured; its apex broadly transverse, with the sides rounded; on the top, in the middle, is a broad, shining keel; the part on either side of this is depressed; the labrum is brownish at the base, as are also the apices of the mandibles. Median segment thickly covered with long black hair; its apex has a straight, oblique slope; the metanotum is closely, finely transversely striated. The apical abscissa of the radius is roundly curved, the ends of the curve being opposite each other; its middle projects slightly, but distinctly, beyond the middle of the 3rd transverse cubital nervure; the 2nd cubital cellule is distinctly longer than the 3rd above. The black cloud on the base of the fore wing, on the lower side, extends close to the transverse basal nervure; in the

hind wings almost the basal two-thirds are black. The abdomen has a blue, mixed with a violaceous, bloom; the last segment is thickly covered with long black hair.

Hab.—Chillo, 9000 feet.

The depressions on the sides and base of the ocelli are large, deeper and more clearly defined than usual; the apical tooth of the mandibles is short and broadly rounded; it is much shorter, broader and not narrowed towards the apex as it is in *P. andicola* and *P. montezumia*.

***Salinus Whymperi* sp. nov.**

Black, densely covered with a purple and violaceous bloom, especially the abdomen; the flagellum of the antennæ pale fulvous; the wings dark fuscous-violaceous. ♀. Length 22 mm.

Head sparsely covered with longish black hair; the frontal furrow is distinct; the ocelli are separated from the eyes by four times the distance they are from each other. The metanotum is more purplish in tint than the rest of the thorax; it is strongly, irregularly transversely striated; the sides are covered with long black hairs. The post-scutellum is thickly covered with long black hairs. The 2nd cubital cellule is distinctly shorter, above and below, than the 3rd; the 1st recurrent nervure is received near the base of the apical fourth of the cellule; the 2nd near the apex of the basal third; the third transverse cubital nervure is roundly curved, with the upper part more obliquely sloped. In the hind wings the accessory nervure is received distinctly beyond the transverse median. There is a faint hyaline spot at the base of the discoidal cellule. The breast, coxae and trochanters are thickly covered with long black hair; the spines on the tibiae and tarsi are black; the claws have one sharp tooth at the base. The last abdominal segment is black and is thickly covered with long black hair.

Hab.—Cotocachi, 12,000 feet. Illiniza, 12,000 feet.

***Salinus eucadorensis* sp. nov.**

Black; the abdomen with a bluish and violaceous bloom, the latter especially on the hinder segments; the pygidium thickly covered with stiff bright golden pile and with some longish black hair; the flagellum of the antennæ bright, light fulvous; the wings yellow, black at the base. Claws with one tooth. ♀. Length 13 mm.

The head has a purple violaceous bloom; the front has a narrow, but distinct, furrow down its centre; the eyes do not converge much at the top; the temples are broad, rounded and not narrowed behind. The apex of the clypeus is slightly, broadly incised in the centre, with its sides broadly rounded; the labrum is distinctly visible. The 2nd and 3rd cubital cellules at the top are equal in length; the first transverse cubital nervure is sharply, the 2nd is less sharply oblique; the 3rd is broadly, roundly curved; the 1st recurrent nervure is received at the base of the apical third of the cellule, the 2nd shortly behind the middle. The abdomen has a brighter, more bluish tinge than the thorax; the apex of the 3rd and the following segments have a purple-violaceous hue. The tibial and

tarsal spines are black, except those near the apex of the latter; the claws have a short, erect spine near the base.

Hab.—Quito to Guillabamba, 9000 feet.

***Hypoferreola machachiensis* sp. nov.**

Black, with a distinct purple bloom; wings fuscous-violaceous, the nervures and stigma black; the 3rd cubital cellule at the top not more than half the length of the 2nd; the 3rd transverse cubital nervure broadly, roundly curved. ♀. Length 8 mm.

Eyes not converging much above; they are separated there by fully the length of the 1st and 2nd joints united; the binder ocelli are separated from the eyes by a slightly greater distance than they are from each other. The mandibles are broadly dark rufous behind the teeth. Wings uniformly fuscous-violaceous; the 1st and 2nd transverse cubital nervures are oblique; the 1st has an oblique slope on the top; the 2nd is slightly, roundly curved on the top; the 3rd is broadly roundly curved; its upper half has a more oblique, straight slope than the lower. The spines on the tibiae and tarsi are black; the binder tarsi have a brownish tinge. The temples are well developed; the apical abscissa of the radius is straight and oblique; the second recurrent nervure is received shortly beyond the middle; the transverse basal nervure is almost interstitial; the accessory nervure in the hind wings is received shortly behind the transverse median.

Hab.—Machachi, 9-10,000 feet.

In Ashmead's arrangement (Canad. Ent., 1902, 79) this species comes nearest to *Hypoferreola*. The prothorax is almost as long as the mesothorax; the subapical tooth of the mandibles is indistinct, the apical large and bluntly rounded; the apex of the clypeus is transverse, with the sides broadly rounded; the labrum has a slight but distinct incision in the middle. The tarsi are closely, the tibiae more sparsely spinose; the claws have a small, erect tooth; the 2nd joint of the fore tarsi is fully half the length of the first. The pronotum is not "broad," but not "as long as the mesonotum" as in *Hypoferreola*, it being more as in *Epizuron* and *Pocilopompilus*, the other genera in Ashmead's arrangement, with which it can be compared; but these are different in other respects.

***Hypoferreola ambatoensis* sp. nov.**

Black; when fresh, probably with a violaceous bloom; the wings fuscous, with a faint violaceous tint; the nervures and stigma black; the 2nd cubital cellule at the top twice the length of the 3rd, at bottom shorter than it; the pronotum, front and vertex thickly covered with long black hair. ♂. Length 8 mm.

Antennae not much longer than the abdomen, stout, bare, except the underside of the scape which is covered with black hair. Head opaque, rather thickly covered with longish black hair; the upper half of the eyes curved inwardly, slightly converging above; the binder ocelli are separated from each other by a slightly less distance than they are from the eyes. Wings uniformly fuscous-

violaceous; the basal half of the radius is roundly curved; the apical is equal in length to it and is straight and oblique; the 2nd cubital cellule at the top is one-third longer than the 3rd on the top: below it is shorter than it; the 1st and 2nd transverse cubital nervures are roundly curved; the 2nd recurrent nervure is received almost in the middle of the cellule; the transverse median nervure is not quite interstitial, it being received shortly beyond the transverse median; the accessory nervure in the hind wings is interstitial. The 3rd, 4th and 5th ventral segments bear a thick tuft of longish black hairs.

Hab.—Ambato, 8600 feet.

This species is not unlike *H. machachiensis*, but may be separated from it by the 3rd cubital cellule being longer compared with the 2nd, it being not much shorter than it, where in *machachiensis* it is hardly one-half its length; by the 3rd transverse cubital nervure being roundly curved, instead of having its upper half straight and obliquely bent; and the pronotum and head are thickly covered with long black hair, instead of being bare as in the other species.

SPHEGIDÆ.

***Sphex (Harpactopus) Edwardsi* sp. nov.**

Black; the 2nd and following segments of the abdomen red; the wings fuscous-violaceous, the 2nd recurrent nervure interstitial with the 2nd transverse cubital; the claws with 4 short teeth. ♀ and ♂. Length 14 mm.

Has the form and coloration of *S. thomae*, but is readily separated from it by the interstitial 2nd recurrent nervure and by the scutellum not being broadly depressed in the middle. Head on the top sparsely covered with white hair; the face, lower inner orbits and clypeus thickly covered with silvery pubescence and more sparsely with longish white hair. Eyes parallel, not converging. The apex of the clypeus has a large, somewhat semi-circular depression in the middle at the apex, which has a distinctly depressed margin. Thorax densely covered with greyish longish hair. Basal half of the mesonotum alutaceous; the apical finely, closely longitudinally striated. The scutellum is hardly depressed in the centre. The median segment is more distinctly punctured than the mesonotum; there is a smooth shining shallow furrow on either side leading to the stigmas. Wings uniformly colored; the second cubital cellule is scarcely longer above than the 3rd; it receives the first recurrent nervure near its base; the 2nd is interstitial, as is also the transverse basal nervure. The fore tarsi are thickly covered with long spines; the others and the tibiae have shorter stouter spines; the long spur of the hinder tibiae bears long spines, which become gradually shorter towards the apex of the spur. The abdominal petiole is long, curved and covered with soft white hair.

The ♂ has the head and thorax much more thickly haired than in the ♀; the 3rd cubital cellule is distinctly shorter compared with the 2nd; the apex of the petiole and the 2nd segment are broadly black above; the last abdominal segment becomes gradually narrowed towards the apex and is indistinctly keeled in the middle above.

Hab.—Ambato, 8630 feet.

APIDÆ.

Halictus ecuadorensis sp. nov.

Brassy-green, the abdomen darker, with the apical half of the segments blackish brown, smooth and shining; the antennæ black, the flagellum brown beneath, the wings clear hyaline, the nervures and stigma black. ♂. Length 6 mm.

Head closely punctured and covered with longish white hair; the middle of the face is clearly separated by furrows from the cheeks, which are more strongly punctured, thickly covered with white hair and brassy in tint. Clypeus closely and minutely punctured and having also some larger scattered punctures, its apex and the labrum are yellow. Mandibles black, reddish near the apex. Thorax closely, distinctly and minutely punctured and sparsely covered with longish white hair. Wings clear hyaline; the 1st recurrent nervure is interstitial. Legs black; the femora dark bronzy above; the tarsi dark testaceous and thickly covered with bright, white pubescence. The area on the metanotum is not defined; the base is closely, minutely, irregularly striated; the furrow on the apical slope is wide, deep and smooth; the apex of the pygidium projects semi-circularly and has a distinct raised margin.

Hab.--Quito to Guillabamba, 9000 feet.

CÆNOHALICTUS gen. nov.

♂—Eyes clothed with long hair, large, distinctly curved inwardly on the innerside. Ocelli in a curve. Clypeus produced below; its apex broad, transverse. Pubescence plumose. Wings large, their neuration as in *Halictus*. Spurs finely and closely pectinated.

The temples are not prominent and are obliquely narrowed; the malar space is small. Mandibles deeply grooved in the middle. Labrum large, broad and transverse at the apex. Basal joint of tarsi not much dilated. Antennæ stout, their joints clearly separated; they are as long as the abdomen. There is no area on the metanotum. The abdomen is not much longer than the head and thorax united; it is moderately hairy; the pygidium is smooth and shining; its sides are distinctly raised.

The affinities of this genus are clearly with *Halictus*, from which it may be known by the hairy eyes and by the plumose pubescence. It is hair, not pubescence, which is on the eyes, not a close short pubescence as in e.g. *Cælioxys*. It is almost as long as the hair on the head, and is shortly plumose. The ♀ I do not know.

Cænohalictus trichiothalmus sp. nov.

Dark olive-blue; the apical half of the abdominal segments black, smooth, bare and shining; the antennæ black, the apex of the clypeus dark bronze; the wings clear hyaline, the nervures and stigma black; the underside of the tarsi clothed with pale golden hair. ♂. Length 7-8 mm.

Antennæ black; the scape covered with long white hair; the flagellum bare. Front and vertex shagreened; the face and clypeus have a distinct metallic color and are distinctly and closely punctured, the clypeus more distinctly than the face; it has the apex of the clypeus deeply punctured, dark bronze in color, and is broadly and deeply depressed in the middle. Mandibles rufous near the apex. Thorax closely, minutely and uniformly punctured; the basal area on the metanotum is not defined. Legs black, thickly covered with long white, soft hair; the thick hair on the tarsi has a pale golden hue. Wings clear hyaline, the nervures and stigma black; the 2nd cubital cellule above, is about one-third shorter than the third; it receives the recurrent nervure at its apex, shortly before the 2nd transverse cubital nervure. Abdomen sparsely covered with long white soft hair; the olive-blue basal half is shagreened; the apical black, smooth and shining; the last segment becomes gradually narrowed towards the apex, which is rounded; its sides are distinctly margined; it is smooth, bare, shining and for the greater part brown.

Hab.—Machachi, 9-10,000 feet.

***Megacillisa albotimbriata* sp. nov.**

Black, the head and thorax thickly covered with white hair; as is also the basal abdominal segments; the 2nd, 3rd and 4th segments are fringed with white hair on the apex; the legs covered with black hair; the wings hyaline, their apical half with a faint violaceous tinge, the stigma and nervures black. ♀. Length 17-18 mm.

Antennæ black; the scape covered with longish black and white hair. Front, face and clypeus thickly covered with white hair, which is longest on the face; the vertex is thickly covered with long black hair. Mandibles smooth and shining, black, ferruginous at the apex; their lower side fringed with long white hair. The thorax has the pronotum and metanotum covered with long white hair; the hair on the mesonotum (which is smooth and shining) is sparser, blacker and shorter. The hair on the pleuræ is black; on the sternum it is longer and black. The radius has the base curved and thickened; the 2nd cubital cellule at the top is about one-third of the length of the 3rd; the recurrent nervures are received very shortly in front of the transverse cubitals, their apices touching them. The anterior tarsi are brownish; beneath they are thickly covered with dark rufous hair, this being also the case with end joints of the middle pair. Abdomen smooth and shining; the 2nd, 3rd and 4th segments are covered with short, black hair, except at the apex; this is also the case with the apical segments, which have their apices thickly covered with long black hair.

Hab.—S. Lucia, 8000 feet; Hac. S. Rosaria, 10,350 feet.

***Megachile antisaneliae* sp. nov.**

Black; the head, thorax and base of abdomen thickly covered with long pale fulvous hair; the hair on the apical four segments of the abdomen deep black, its apex ending in two stout, longish teeth; the apical tooth of the mandibles long and acutely pointed; the basal abscissa of the radius nearly as long as the second. Length 11 mm.

Antennæ as long as the thorax, black; the last joint is distinctly longer than the preceding; it is slightly contracted at the base; its apical half is flattened

and compressed, and it becomes distinctly narrowed at the apex; the scape on the lower side bears some long pale fulvous hairs. Head closely punctured; the front, face, clypeus and outer orbits are thickly covered with long pale fulvous hair. Mandibles shining, sparsely punctured in the middle; the apical tooth is long and sharp-pointed; the two subapical are short, bluntly rounded and separated by a curved rounded incision. The thorax is closely and uniformly punctured and covered thickly with long pale fulvous hair; there is a smooth shining keel in the centre of the basal half of the mesonotum. The hair on the four anterior coxae, trochanters and femora are long, thick and pale fulvous; on the posterior it is shorter and black; there is a short, bluntly rounded projection on the under side of the front femora at the apex; on the innerside and on the opposite is a similar, smaller projection; the hair on the underside of the front tarsi is bright golden. The hinder calcaria are large, stout and roundly curved. The apex of the wings has a faint violaceous tinge; the stigma and nervures are black; the basal abscissa of the radius is three-fourths of the length of the second.

Hab.—Antisanella, 11,000 feet.

***Megachile guachalensis* sp. nov.**

Black; the head, thorax and base of abdomen thickly covered with longish white hair; the hair on the 3rd and following segments of the abdomen and the scopa deep black; the wings clear hyaline, the nervures and stigma black; the hair on the legs deep black. ♀. Length 13 mm.

Antennae black; the scape thickly covered with short black hair, the flagellum obscure brownish beneath and covered with a white pile. Head closely and uniformly punctured; the face and clypeus more strongly than the upper parts; the front, sides of the face and clypeus and the outer orbits thickly covered with longish white hair. The apex of the clypeus is depressed; its middle is not quite transverse; the sides obliquely narrowed. The basal half of the mandibles on the outerside is closely but not strongly punctured and thickly covered with pale depressed pubescence; the inner basal half bears large, scattered punctures; the apex is broadly, roundly incised, forming two rounded teeth, the inner of which is broader than the outer; separated from it by a wide, rounded, curve is a shorter, less prominent one. The thorax is closely and distinctly punctured; the hair on the lower part of the pleurae and on the breast is dark fuscous-black. The hair on the legs is long, dense and black; on the underside of the front tarsi it is brownish. The basal two dorsal segments of the abdomen are sparsely covered with longish white hair; on the other segments it is denser, shorter and deep black; the last segment above is more closely and distinctly punctured than the others; below it has the apical half shining. The wings are clear hyaline; the basal abscissa of the radius is fully two-thirds of the length of the second.

Hab.—Hac. Guachala, 9217 feet.

***Anthophora guachalae* sp. nov.**

♂.—Black; the scape of the antennae broadly beneath, a narrow line on the lower edge of the front, the lower third of the clypeus, the labrum and a narrow line on the lower half of the inner orbits and a mark on the base of the mandibles, cream-yellow; the abdominal segments have pale yellow bands on their apices; the head and thorax are thickly covered with pale fulvous hair; the

apices of the abdominal segments have pale fulvous hair bands; wings hyaline, tinged with violaceous, the nervures and stigma black. ♀ similar, but wanting the yellow markings on the head and antennal scape. Length 12 mm.

Vertex shining and impunctate; the front has a smooth line down the middle and is obscurely shagreened. Clypeus closely punctured; the labrum is distinctly but not so closely punctured. Mandibles smooth and shining; the yellow mark on the ♂ mandibles is on the upper edge and is longer than broad. The mesonotum is shagreened; the metanotum is punctured, but not deeply or closely. The hair on the tibiae and tarsi is long and black; on the coxae and femora it is sparser and paler; the apical joints of the tarsi are dark testaceous; the hinder femora are brownish beneath; the calcaria are black. The basal segment of the abdomen is sparsely covered with pale fulvous hair; the apical hair bands occupy about one-fourth of the segment; the pygidial area is long and narrow and is raised in the centre. On the top the second cubital cellule is shorter than the 3rd; below it is longer than it. In the ♂ the apical abdominal segment has a distinct incision on its apex; the sides of the incision are oblique; the edges form bluntly rounded teeth. The ♀ wants the yellow markings on the head and antennae found in the ♂. The ventral surface may be more or less brownish; in worn specimens the abdominal hair bands are whitish, without any fulvous-golden tint. The violaceous-fuscous tint varies in intensity; in one ♂ it is almost absent. The black band on the top of the ♂ clypeus is narrow in the middle, broad on the sides, where it becomes obliquely lengthened.

Hab.—Hae. Guaehala, 9217 feet.

Comes near, apparently, to the Mexican *A. marginata* Sm.

Eucera andicola sp. nov.

Black; the head, metanotum and base of abdomen covered with long fulvous hair; the rest of the thorax with black hair; the 3rd and 4th segments above are thickly covered with bright shining rufous hair; the hair on the legs black; the mandibles have the apical half pale orange-red; the wings hyaline, with a distinct violaceous tinge, the stigma and nervures black. ♀. Length 13 mm.

Clypeus sparsely punctured and sparsely covered with pale fulvous hair; the labrum is thickly covered with longish pale fulvous hair. Mandibles broad and almost transverse at the apex; the centre with a slight incision; there are no teeth on it. Mesonotum shining, smooth and covered with black hair. The 2nd transverse cubital nervure is received distinctly behind the middle; the 2nd recurrent nervure is interstitial; the 1st at one-third of the length of the 1st transverse cubital nervure from the base of the cellule. The hair is thick on all the legs; is long and black; the apical joints of the tarsi are testaceous. The hair on the basal abdominal segment is sparse, long and pale fulvous; it is deeply and widely hollowed in the middle at the base; the black hair on the second segment is short and sparse; the bright rufous hair on the 3rd segment is sparse on the base and does not reach to the sides; on the 4th it covers the dorsal surface; on the 5th the hair is dark rufous on the base; the pygidial area is bare, its sides widely depressed and obscurely transversely striated. The hair on the ventral surface is black; on the penultimate segment dark rufous. The tarsal claws are stout, at the base pale yellow; they are bifid; the inner tooth more than half the length of the apical.

Hab.—Chillo, 9000 feet.

Having only a single example, I have not been able to examine the palpi; but, so far as the other points are concerned, the species does not differ materially from typical *Eucera*, except that the legs are more thickly haired and with the hair longer, and that the apex of the mandibles is, if anything, more transverse. The general form and coloration is not typical of *Eucera*. In this respect it agrees closely with *Habropoda carinifrons* Cam.

Habropoda ? carinifrons sp. nov.

Black, smooth and shining; the median segment covered with long fulvous hair; the 4th abdominal segment above covered with bright, shining golden rufous hair; on the 5th it is fuscous; the wings hyaline, with a steely iridescence; the stigma and nervures black. ♀. Length 12 mm.

Front and vertex smooth and shining and covered, but not thickly, with long black hair; the front has a stout keel down its centre; at its apex it is covered with rufous pubescence. The clypeus is covered with short black hair, except on the apex which is smooth; the labrum is covered with long pale fulvous hair. Thorax smooth and shining. Legs thickly covered with stiff black hair. Abdomen smooth and shining; the basal 3 segments are covered with black hair; the 4th, except at the sides, with bright, shining rufous hair; the 5th with dark fuscous; the last bare; its pygidial area smooth, slightly depressed; the sides of the segment obscurely transversely striated.

Hab.—Hac. Guachala, 9217 feet.

This is probably not a *Habropoda* as now limited by American Hymenopterists. Having only a single example, I have not ventured to dissect the trophi. It is perhaps an *Emphoropsis*. The 1st recurrent nervure is interstitial; the 2nd almost so; the 2nd cubital cellule is distinctly shorter than the 3rd above and below; it is slightly wider at the top than below. As compared with the Indian species of *Habropoda*, the basal nervure is shorter and more roundly curved; the 1st and 2nd discoidal cellules are shorter, broader and more equal in length, whereas in the Indian species the 1st is much longer than the 2nd, and both the face and the clypeus are longer compared with their breadth than they are in the Andean species.

PARACENTRIS gen. nov.

♂.—Third joint of antennæ much longer and narrower than the other, dilated at the apex, as long as the 3 following joint united. Ocelli in a curve. Mandibles with a long apical tooth, rounded at the apex and a short, bluntly pointed subapical one. The 2nd cubi-

tal cellule is distinctly longer, above and below, than the 1st or 3rd; the 3rd is much narrowed above, being there not one-fourth of its length at the bottom, the 1st recurrent nervure is received near the middle, the 2nd near the apex of the cellule. Legs thickly covered with long black plumose hairs. Labial palpi 4-jointed; the basal joint four times longer than the 2nd; maxillary palpi 6-jointed, the joints of almost equal length.

The body and legs are densely clothed with long hair; the antennae are hardly longer than the thorax; the clypeus and labrum are white; the latter is large and is gradually narrowed towards the apex; the fore spurs bear a large diaphaneous plate on the inner side; the long spur of the hinder calcaria is closely and uniformly pectinated; the claws are stout and bifid; the pygidium has a narrow, smooth bare area in its middle. The tongue is of moderate length; the hairs on the maxilla are long and plumose. The radial cellule is shorter than the 3 cubital cellules united, being as long as the 2nd and 3rd on the lower side.

I unfortunately have only males of this species. Its affinities are clearly with *Centris*, with which it agrees in neuration, body form and in having the 3rd antennal joint greatly elongated; but may be known from it by the differences in the trophi and by the pectinated spurs.

Paracentris fulvohirta sp. nov.

Black; the clypeus and labrum and apex of the mandibles, on the underside, pale yellow; the face, sides of the clypeus and the labrum covered with pale fulvous hair; the upper side of the thorax thickly covered with long fulvous hair; the hair on the pleura and the sternum with long soot-colored hair; the hair on the abdomen and legs black; the wings hyaline, the nervures and stigma black. ♂. Length 15 mm.

Antennae black, the flagellum fuscous. Clypeus smooth and shining; its centre bare, the edges covered with long white hair. Except round the edges, the labrum is distinctly punctured. Mandibles smooth and shining; the middle with a long, deep groove; the part between the end of the groove and the apex yellow. The front below the ocelli is smooth, bare and shining; the rest of it is thickly covered with long black hair; the vertex in the centre has a patch of long pale fulvous hair. The hair on the upper part of the thorax is long, thick and pale fulvous; on the upper part of the thorax it is pale fulvous; on the rest of the pleurae and on the sternum it is long and soot-colored. Abdomen black, with a slight bluish tint; smooth and shining; the pygidium is bare in the middle; at the base the bare part is raised and rufous. The ventral surface is thickly covered with long, dark soot-colored hair.

Hab.—Machachi, 9-10,000 feet.

Xylocopa viridigastra Lep.

Quito, 9000 feet; Chillo, 9000 feet; Nanegal, 3-4000 feet.

Bombus funebris Sm.

Described from Quito. Taken by Mr. Whymper at Machachi, 9-10,000 feet; Hac. Guachala, 9217 feet; Pichincha, 11,500 feet; Chillo, 9000 feet; S. Lucia, 8000 feet; Hac. S. Rosario, 10,300 feet.

The males and workers are colored like the females, black, with silvery white hair on the back of the thorax and on the apex of the abdomen.

Bombus robustus Sm.

One example from Pichincha, 11,500 feet.

Agapostemon peruvianus sp. nov.

Head and thorax brilliant emerald-green and thickly covered with long whitish-fulvous hair; the abdomen black; the halves of all segments yellow; the labrum, mandibles and the greater part of the legs yellow; the antennæ black, brownish beneath; wings hyaline, the stigma testaceous, the nervures black. ♂.

Scape of antennæ yellow, black above; the flagellum black, fulvous beneath, except on the apical two joints. Head emerald green, except the apex of the clypeus and the labrum, which are yellow, it is closely but not very closely punctured. The clypeus is large, broadly rounded above and with a bundle of stiff brownish bristles on the top in the centre; beneath the sides are broadly roundly produced and clearly separated from the labrum which has its apex broadly rounded; its sides are rounded and it is clearly separated above and covered with short white pubescence. Mandibles thickly covered with golden pubescence, yellow, their apex piceous. Thorax brilliant emerald-green, closely and distinctly punctured. The mesonotum is more closely punctured than the rest; it bears a central and a lateral golden impressed line; the scutellum is more distinctly and less closely punctured; the area on the median segment is large, rather strongly reticulated; the apical slope is clearly limited and bears some irregular, curved striae. Pleurae closely and strongly punctured, the punctures running into striae; the hinder part of the mesopleuræ is irregularly striated, and at the base is bounded by a curved furrow; the lower part of the metapleuræ bears some irregular striae, which are longest on the apex. The four front legs have the coxae and trochanters black; the latter streaked with yellow in the middle; the hinder coxae are emerald-green and closely striated above; the rest brownish; the hind femora black, with a broad yellow line on the apical half above; the hinder tibiae are dark brown, yellow beneath. The yellow band on the 1st abdominal segment is on the apex, on the others on the basal half, the apical two bands are narrower than the others; the ventral segments have similar, but narrower bands.

Hab.—Callao, Peru (I. I. Walker, R. N.).

Megacillisa fulvo-pilosa sp. nov.

Black, thickly covered with longish fulvous pubescence; the lower inner orbits, the clypeus and the labrum yellow; the abdomen with a blue-violaceous

tint; the legs dark blackish brown; the anterior tarsi and the apical 4 joints of the 4 posterior rufo-testaceous; the wings fulvous-hyaline, the nervures fulvous. ♂. Length 15 mm.

Antennæ black, the scape dark brown. Head smooth and shining; the clypeus, lower inner orbits and the labrum yellow; the clypeus with a few scattered punctures; a smooth, black shining keel leads down from the front ocellus. Mandibles brownish-black, brighter, more rufous in color in the middle. Thorax thickly covered with long fulvous hair, except on the centre of the median segment, which is bare, smooth and shining and dark brown in color. The hair on the coxae, trochanters, femora and anterior tibiæ is long, dense and pale fulvous in color; on the 4th anterior tarsi it is rufous, except on the middle tibiæ and base of tarsi in front, on which it is black; on the hinder tibiæ and tarsi it is for the most part black. The 2nd cubital cellule is small, at the bottom about one-fourth of the length of the 3rd; at the top it is narrowed, the transverse cubital nervures (which are roundly curved) almost touching there. The five apical dorsal segments have a distinct metallic tint and are shining; the last ventral segment is broadly raised in the middle. The hinder tibiæ are slightly curved; the outer spur of the hinder calcaria is long, curved, broad at the base, becoming gradually narrowed towards the apex and finely pectinated in the middle; the inner is longer, narrower at the base and much more stoutly combed throughout; the 2nd and 3rd tarsal joints of the posterior legs are dilated and compressed beneath; they become gradually, roundly wider from the base to the apex; the labrum is roundly convex and unfurrowed.

Hab. — Panama (Pacific side), G. F. Mathew.

Comes near to *M. eximia* Sm. In being densely clothed all over with long pubescence it resembles *M. pubescens* Sm., but that is very different otherwise.